

movement means for controlling the movement of said camera viewpoint based on a position relationship between an observable point in relation to said movable body and a line of sight of a current camera viewpoint; and

artificial intelligence (AI) processing means for executing AI processing incorporating emotions of the movable body influenced by circumstances, evaluation/determination, and factors of behaviors in said virtual three-dimensional space.

2. (Amended) An image generating device according to claim 1, wherein said virtual three-dimensional space is a game space, and said movable body is an enemy in a gun shooting game within said game space.

3. (Amended) An image generating device according to claim 2, further comprising:

display means for displaying said game space on a screen;

a gun unit capable of producing signals on said screen when a player manipulates a trigger;

a sensor for detecting an arrival position of said signals on the screen of said display means; and

game implementing means for implementing a gun shooting game between said enemy and said player based on said arrival position.

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4. (Amended) An image generating device according to claim 3, further comprising:

observable point moving means for moving said observable point toward said movable body for each display of one frame of said image, wherein a position of said observable point is at a different position than that of said movable body.

5. (Amended) An image generating device according to claim 4, wherein said observable point moving means comprises:

means for moving said observable point toward said movable body in prescribed distances, for each display of one frame of said image, along a straight line connecting said observable point and said movable object.

6. (Amended) An image generating device according to claim 4, wherein said observable point moving means comprises:

means for operating an open angle between a current line of sight of said camera and a line extending from the camera position through said observable point;

means for operating a rotational angle based on the open angle; and

means for rotating, for each display of one frame of said image, the current line of sight of said camera viewpoint toward said observable point by said rotational angle.

7. (Amended) An image generating device according to claim 3, wherein said movement means comprises:

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judging means for judging the occurrence of specific circumstances of the relative position relationship between said camera viewpoint, which changes in accordance with manipulations of said player, and said observable point; and

viewpoint movement control means for controlling the position of said camera viewpoint to continuously capture the position of said observable point.

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8. (Amended) An image generating device according to claim 7, wherein said viewpoint movement control means comprises:

means for moving said camera; and

means for rotating said camera viewpoint based on an angle between a line extending from said camera position through said observable point after movement of said camera and a line extending from said camera position through said observable point before movement of said camera.

9. (Amended) An image generating device according to claim 8, wherein means for rotating said camera viewpoint rotates said camera viewpoint toward said observable point based on said angle.

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11. (Amended) An image generating device according to claim 9, further comprising:

avoidance manipulation means for said player to manipulate a character, which is a simulation of said player on a screen, to avoid a bullet fired from said enemy,

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wherein said judging means determines whether said avoidance manipulation means is in a manipulative state.

13. (Amended) An image generating device for generating images allowing a player to play a gun shooting game with an enemy character existing in a virtual game space, comprising:

image processing means for providing images suggesting to the player in advance an impending attack by said enemy character on said player, wherein the images include at least one image of at least one bullet fired by said enemy character and having a path toward said player in the virtual game space, and further wherein the path of the at least one bullet deviates from the position of the player until a predetermined condition is met.

14. (Amended) An image generating device according to claim 13, wherein the image of said at least one bullet is an image of the at least one bullet flying in an arc.

15. (Amended) An image generating device for displaying on a display images for a player to play a gun shooting game with an enemy character existing in a virtual game space, said image generating device comprising:

artificial intelligence (AI) processing means for executing AI processing incorporating emotions of said character influenced by circumstances, evaluation/determination, and factors of behaviors in said game.

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18. (Amended) An image generating device for generating images by representing a movable object simulating a person and moving inside a virtual three-dimensional space as a plurality of parts connected via connection points, said image generating device comprising:

first specifying means for specifying a subpart on a terminal side and a main part on a central side with respect to two adjacent parts among said plurality of parts;

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first operating means for operating an impulse of the subpart motion communicated to the main part under a presumption that the connection point of said subpart to said main part is a fixed point;

first repeating means for repeating, in a recurring manner, the movements of said first specifying means and said first operating means from the terminal side of said movable object to the central side thereof;

second specifying means for specifying a main part on the central side and a subpart on the terminal side with respect to two adjacent parts among said plurality of parts;

second operating means for operating an impulse of the main part motion communicated to the subpart; and

second repeating means for repeating, in a recurring manner, the movements of said second specifying means and said second operating means from the central side of said moveable object to the terminal side thereof.

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19. (Amended) An image generating device according to claim 18, wherein at least one of said first and second operating means comprises means for executing seasoning-like operational processing upon simulating said person.

20. (Amended) An image generating device according to claim 19, wherein said seasoning-like operational processing includes at least one of the operations among:

an operation for applying a reverse moment to at least one part of the plurality of parts, which is caused pursuant to at least one restriction on movement of at least one joint of said person,

an operation for reflecting an external force inflicted on said person to at least one part of the plurality of parts,

an operation for correcting an unnaturalness of a position of at least one part of the plurality of parts caused pursuant to differences in calculations,

an operation for applying an internal force moment caused by at least one physical characteristic of said person to at least one part of the plurality of parts, and

an operation for controlling a rotation or movement speed of at least one part of the plurality of parts for reflecting expressions caused by a mentality of said person to said at least one part of the plurality of parts.

21. (Amended) An image generating device for generating image data which interpolates motion between two types of motions of a movable object moving within a virtual three-dimensional space, comprising:

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operating means for discretely operating a function curve of the motion between said two types of motions pursuant to a current rotational angle, target rotational angle, and a number of frames required to reach the target rotational angle; and

interpolation means for performing motion interpolation based on the operational results of said operating means.

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22. (Amended) An image generating device for generating images requiring a collision judgment between a movable object moving within a virtual three-dimensional space and a structural object arranged in said space, comprising:

a collision judgment means for judging the collision with said movable object while moving said structural object, wherein a coordinate, being fixed on a collision surface of the structural object while moving, is described in a coordinate system associated with the structural object, and based on said coordinate, the collision is determined.

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25. (Amended) A storage medium storing a program for executing functions of the image processing means of the image generating device of any one of claims 13-14.

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~~30~~. (New) A method of moving a viewpoint of a camera on a game display such that an observable body is optimally displayed on the game display, comprising:

determining a current position of the observable body;

determining a current position of a target point, wherein the target point is on a first line extending from a position of the camera and through the target point;

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moving the target point a prescribed distance toward the observable body;
calculating an angle between the first line and a line of sight of the camera; and
rotating the line of sight of the camera toward the first line based on the angle
computed.

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~~31.~~ (New) A method of moving a viewpoint of a camera on a game display
such that an observable body is optimally displayed on the game display, comprising:
determining a first direction from a first position of the camera to a target point;
moving the camera from the first position to a second position;
determining a second direction from the second position of the camera to the
target point;
computing an angle between the first direction and the second direction; and
rotating a line of sight of the camera based on the angle computed.

~~32.~~ (New) A computer-readable medium on which is stored a set of
instructions for moving a viewpoint of a camera on a game display such that an
observable body is optimally displayed on the game display, which when executed
performs steps comprising:
determining a current position of the observable body;
determining a current position of a target point, wherein the target point is on a
first line extending from a position of the camera and through the target point;
moving the target point a prescribed distance toward the observable body;
calculating an angle between the first line and a line of sight of the camera; and

rotating the line of sight of the camera toward the first line based on the angle computed.

33. (New) A computer-readable medium on which is stored a set of instructions for moving a viewpoint of a camera on a game display such that an observable body is optimally displayed on the game display, which when executed performs steps comprising:

determining a first direction from a first position of the camera to a target point;

moving the camera from the first position to a second position;

determining a second direction from the second position of the camera to the target point;

computing an angle between the first direction and the second direction; and

rotating a line of sight of the camera based on the angle computed.

34. (New) A system for moving a viewpoint of a camera on a game display such that an observable body is optimally displayed on the game display, comprising:

means for determining a current position of the observable body;

means for determining a current position of a target point, wherein the target point is on a first line extending from a position of the camera and through the target point;

means for moving the target point a prescribed distance toward the observable body;

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means for calculating an angle between the first line and a line of sight of the camera; and

means for rotating the line of sight of the camera toward the first line based on the angle computed.

35. (New) A system for moving a viewpoint of a camera on a game display such that an observable body is optimally displayed on the game display, comprising:

means for determining a first direction from a first position of the camera to a target point;

means for moving the camera from the first position to a second position;

means for determining a second direction from the second position of the camera to the target point;

means for computing an angle between the first direction and the second direction; and

means for rotating a line of sight of the camera based on the angle computed.

36. (New) A method for suggesting to a player an attack by an enemy comprising:

determining whether an attack by an enemy has begun or will begin;

computing a bullet path which deviates from a position of the player; and

executing the bullet path until the number of bullets fired in a series by the enemy has reached a predetermined number.

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~~37.~~ (New) The method of claim 36, wherein the bullet path is arc-shaped.

~~38.~~ (New) The method of claim 36, wherein the deviation between the bullet path and the position of the player decreases as the number of bullets fired in a series increases.

~~39.~~ (New) A computer-readable medium on which is stored a set of instructions for suggesting to a player an attack by an enemy, which when executed performs steps comprising:

determining whether an attack by an enemy has begun or will begin;

computing a bullet path which deviates from a position of the player; and

executing the bullet path until the number of bullets fired in a series by the enemy has reached a predetermined number.

~~40.~~ (New) The computer-readable medium of claim 39, wherein the bullet path is arc-shaped.

~~41.~~ (New) The computer-readable medium of claim 39, wherein the deviation between the bullet path and the position of the player decreases as the number of bullets fired in a series increases.

~~42.~~ (New) A system for suggesting to a player an attack by an enemy:

means for determining whether an attack by an enemy has begun or will begin;

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means for computing a bullet path which deviates from a position of the player;
and

means for executing the bullet path until the number of bullets fired in a series by the enemy has reached a predetermined number.

~~43.~~ (New) The system of claim 42, wherein the bullet path is arc-shaped.

~~44.~~ (New) The system of claim 42, wherein the deviation between the bullet path and the position of the player decreases as the number of bullets fired in a series increases.

~~45.~~ (New) A method for controlling a character in a game comprising:
determining an emotion factor of the character based on at least one of a situation or behavior; and

determining a behavior of the character based on the emotion factor.

~~46.~~ (New) The method of claim 45, wherein the emotion factor reflects a degree of anger and fear in the character.

~~47.~~ (New) The method of claim 46, wherein determining an emotion factor of the character comprises:

changing the emotion factor of the character based on at least one of the following situations: a bullet passes near the character, the character is adversely

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affected; another character is adversely affected; a performance of the character; a lapse in time.

~~48.~~ (New) The method of claim 47, wherein changing the emotion factor of the character comprises at least one of the following:

increasing fear in the character when a bullet passes near the character;

increasing anger in the character when an opposing character defeats a comrade of the character;

increasing fear in the character when an opposing character defeats a comrade of the character;

increasing anger in the character when the character sustains injury;

decreasing anger and fear in the character when an opposing character sustains injury;

increasing anger rises and decreasing fear in the character when the character is unable to inflict injury on an opposing character; and

decreasing anger and fear in the character as time lapses.

~~49.~~ (New) The method of claim 46, wherein determining a behavior of a character based on the emotion factor comprises at least one of the following:

increasing a hit rate of the character when fear is low;

decreasing the hit rate of the character when fear is high;

increasing a movement rate of the character when anger is high;

inhibiting the character's shooting when fear is high; and

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increasing a shoot rate of the character when anger is high.

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~~50.~~ (New) A computer-readable medium on which is stored a set of instructions for controlling a character in a game, which when executed performs steps comprising:

determining an emotion factor of the character based on at least one of a situation or behavior; and

determining a behavior of the character based on the emotion factor.

~~51.~~ (New) The computer-readable medium of claim 50, wherein the emotion factor reflects a degree of anger and fear in the character.

~~52.~~ (New) The computer-readable medium of claim 51, wherein determining an emotion factor of the character comprises:

changing the emotion factor of the character based on at least one of the following situations: a bullet passes near the character, the character is adversely affected; another character is adversely affected; a performance of the character; a lapse in time.

~~53.~~ (New) The computer-readable medium of claim 52, wherein changing the emotion factor of the character comprises at least one of the following:

increasing fear in the character when a bullet passes near the character;

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increasing anger in the character when an opposing character defeats a comrade of the character;

increasing fear in the character when an opposing character defeats a comrade of the character;

increasing anger in the character when the character sustains injury;

decreasing anger and fear in the character when an opposing character sustains injury;

increasing anger rises and decreasing fear in the character when the character is unable to inflict injury on an opposing character; and

decreasing anger and fear in the character as time lapses.

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54. (New) The computer-readable medium of claim 51, wherein determining a behavior of a character based on the emotion factor comprises at least one of the following:

increasing a hit rate of the character when fear is low;

decreasing the hit rate of the character when fear is high;

increasing a movement rate of the character when anger is high;

inhibiting the character's shooting when fear is high; and

increasing a shoot rate of the character when anger is high.

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~~55.~~ (New) A system for controlling a character in a game comprising:
means for determining an emotion factor of the character based on at least one of a
situation or behavior; and

means for determining a behavior of the character based on the emotion factor;

~~56.~~ (New) The system of claim 55, wherein the emotion factor reflects a
degree of anger and fear in the character.

~~57.~~ (New) The system of claim 56, wherein means for determining an emotion
factor of the character comprises:

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means for changing the emotion factor of the character based on at least one of
the following situations: a bullet passes near the character, the character is adversely
affected; another character is adversely affected; a performance of the character; a
lapse in time.

~~58.~~ (New) The system of claim 57 wherein means for changing the emotion
factor of the character comprises at least one of the following:

means for increasing fear in the character when a bullet passes near the
character.

means for increasing anger in the character when an opposing character defeats
a comrade of the character;

means for increasing fear in the character when an opposing character defeats a
comrade of the character;

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